

## SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**COMPANY ADDRESS:** RedEagle International LLC  
5143 S. Lakeland Drive - Suite 3  
Lakeland, FL 33813

**EMERGENCY TELEPHONE NUMBERS:**  
(800) 424-9300 (CHEMTREC, transportation and spills)  
(800) 222-1222 American Association of Poison Control Centers

**PRODUCT NAME:** CLETHODIM 2E  
**CHEMICAL NAME:** Clethodim (E)-2[1-[[[(3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one  
**PRODUCT USE:** Herbicide  
**PRODUCT CODE:** EPA Reg. No. 85678-23

## SECTION 2 - HAZARDS IDENTIFICATION SUMMARY

(As defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200)

Dark amber liquid. Mild aromatic odor.

**HEALTH HAZARDS: WARNING** Harmful if swallowed or inhaled.  
Moderate skin and eye irritant.

**PHYSICAL HAZARDS:** Combustible. May release toxic fumes if burned.

**ENVIRONMENTAL HAZARDS:** Slightly toxic to fish, other water organisms, and bees.



## SECTION 3 – COMPOSITION, INFORMATION OF INGREDIENTS

COMPONENT	PERCENTAGE	CAS No.
Clethodim	25 – 27	99129-21-2
Petroleum distillates (contains)*	65 – 71	64742-94-5
*Naphthalene	5 – 7	91-20-3
*Trimethylbenzene	2 – 3	95-63-6

## SECTION 4 - FIRST AID MEASURES

First Aid responders should use protective equipment in Section 8 if there is a potential for exposure to product.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by poison control center or doctor. Do not give any liquid to a person. Do not give anything by mouth to an unconscious person.

**IF INHALED:** Move person to fresh air, if person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

Have a product container or label with you when calling a poison control center or doctor, or going for treatment.

### SECTION 5 - FIRE FIGHTING MEASURES

#### NFPA (National Fire Protection Association) HAZARD RATINGS

HEALTH	FLAMMABILITY	REACTIVITY
2	2	1

4=Severe    3=Serious    2=Moderate    1=Slight    0=Minimal

**FLASHPOINT:** 65°C (149° F)

**EXTINGUISHING MEDIA:** Use foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material.

**FIRE AND EXPLOSION HAZARD:** Combustible liquid. Can form explosive mixtures at temperatures at or above the flashpoint. Can burn in fire, releasing irritating and toxic gases such as oxides of nitrogen and sulfur or toxic compounds of chlorine due to thermal decomposition or combustion.

**FIRE FIGHTING INSTRUCTIONS:** Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Explosive vapors could form from ruptured containers. Dike and collect water used to fight fire to prevent environmental damage due to run off. Minimize use of water to prevent environmental contamination.

**FIRE FIGHTING EQUIPMENT:** Full firefighting turn-out gear (Bunker gear) including self-contained breathing apparatus with full face piece.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

**IN CASE OF SPILLS OR LEAKS:** Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of soil, surface water, or ground water. Clean up spills immediately. Observe precautions in Section 8 of this document. Keep unnecessary and unprotected personnel from entering.

**SMALL SPILL:** Absorb small spills with sand, vermiculite, or other absorbent inert ingredients. Place material in a container for proper disposal.

**LARGE SPILL:** Dike spill using absorbent or impervious material such as clay or sand. Recover and contain as much free liquid as possible for reuse or disposal. Allow absorbed material to solidify and scrape up for disposal. After removal, clean contaminated area thoroughly with water. Pick up wash liquid with additional absorbent for disposal. Minimize use of water to prevent environmental contamination.

**CAUTION:** This material forms an emulsion in water. Minimize use of water to prevent runoff into municipal sewers or other open bodies of water and minimize environmental contamination. Be sure to isolate any contaminated water. Contact your State Pesticide or Environmental Control Agency, or nearest EPA Regional Office for guidance on disposal.

### SECTION 7 - HANDLING AND STORAGE

#### KEEP OUT OF REACH OF CHILDREN!

**HANDLING:** Use only in a well-ventilated area. Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling concentrate. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing if pesticide gets inside clothing. Then wash thoroughly and put on clean clothing. Remove PPE after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Do not reuse container.

**STORAGE:** Keep pesticide in original container. Keep container tightly closed when not in use. Store in a locked storage area. Avoid cross contamination with other pesticides or fertilizers during handling and storage. Store in a cool, dry place. Do not contaminate water, feed, or food by storage and disposal. Do not store diluted spray.

<b>SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION</b>
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**EXPOSURE LIMITS:** (8 hour TWA, ppm):

COMPONENT	OSHA PEL	ACIGH TLV
Clethodim	Not listed	Not listed
Petroleum distillates (contains)*	Not listed	100 ppm
*Napthalene	10 ppm TWA	10 ppm TWA
*Trimethylbenzene	Not listed	25 ppm TWA

**ENGINEERING CONTROLS:** Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**PERSONAL PROTECTIVE EQUIPMENT:**

**EYE PROTECTION:** Protective eyewear

**SKIN PROTECTION:** Long-sleeved shirt and long pants, shoes plus socks, chemical-resistant gloves such as barrier laminate or viton  $\geq$  14 mils.

**RESPIRATOR:** Normally not required. If handling in an enclosed environment where vapors or mists may exceed acceptable levels, wear NIOSH approved air-purifying respirator approved for pesticides.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

<b>SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Appearance:</b>	Dark amber liquid
<b>Odor:</b>	Mild aromatic odor
<b>pH:</b>	3.8 – 4.8
<b>Melting Point:</b>	Not applicable
<b>Boiling Point:</b>	Not applicable
<b>Flash Point:</b>	65° C
<b>Evaporation Rate:</b>	No data
<b>Flammability:</b>	Not flammable
<b>Flammability Limits:</b>	Not applicable
<b>Vapor Pressure:</b>	$<1 \times 10^{-2}$ mPa (20° C) (Clethodim)
<b>Vapor Density:</b>	Not applicable
<b>Density:</b>	1.15 – 1.21 g/ml (9.60 – 10.10 lb/gl)*
<b>Solubility:</b>	Emulsifies in water
<b>Partition Coefficient:</b>	No data
<b>Auto-Ignition Temperature:</b>	No data
<b>Decomposition Temperature:</b>	No data
<b>Viscosity:</b>	3.33 cSt (20° C); 2.15 cSt (40° C)

\* Listed density is an approximate value and does not necessarily represent that of a specific batch.

**SECTION 10 - STABILITY AND REACTIVITY**

<b>PRODUCT REACTIVITY:</b>	Non-reactive
<b>CHEMICAL STABILITY:</b>	Unstable at extreme pHs and temperature and upon exposure to UV light.
<b>HAZARDOUS REACTION/POLYMERIZATION:</b>	Product will not undergo polymerization.
<b>CONDITIONS TO AVOID:</b>	Avoid excessive heat, direct sunlight, and exposure to air. Keep containers sealed.
<b>INCOMPATIBLE MATERIALS:</b>	Oxidizing materials.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Oxides of hydrogen, nitrogen, sulfur, and toxic chlorine-containing compounds.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

<b>ACUTE TOXICITY:</b>	
Oral LD <sub>50</sub> (rat):	5,000 mg/kg
Dermal LD <sub>50</sub> (rat):	> 5,000 mg/kg
Inhalation LC <sub>50</sub> (rat):	> 2.3 mg/l
Eye irritation (rabbit):	Moderate
Skin irritation (rabbit):	Moderate
Sensitization (guinea pig):	Not a contact sensitizer
<b>CARCINOGEN STATUS: Naphthalene</b>	
NTP:	2
IARC:	List 2B
<b>TERATOGENICITY:</b> Developmental toxicity in rats and rabbits was observed only at maternally toxic doses.	
<b>MUTAGENICITY:</b> No evidence of mutagenic effects during in vivo or in vitro studies.	

**SECTION 12 - ECOLOGICAL INFORMATION**

<b>ENVIRONMENTAL SUMMARY:</b> Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply where runoff might occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when cleaning equipment or disposing of equipment wash waters or rinsate.	
<b>FATE:</b> Degrades rapidly with a soil half-life of 3 – 10 days. Very soluble in water and mobile in soil.	
<b>FISH TOXICITY:</b> (technical)	
96 hour LC <sub>50</sub> , Rainbow trout –	67 mg/l
96 hour LC <sub>50</sub> , Bluegill-	120 mg/l
<b>AVIAN TOXICITY:</b> (technical)	
Dietary LD <sub>50</sub> , Bobwhite quail -	> 4,000 ppm
Dietary LD <sub>50</sub> , Mallard duck -	> 4,000 ppm
<b>BEE TOXICITY:</b> Contact LD <sub>50</sub> - > 100 ug/bee	

**SECTION 13 - DISPOSAL CONSIDERATIONS**

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE DISPOSAL:** Excess pesticide spray, mixture, or rinsate resulting from the use of this product can be disposed of onsite according to label instructions or at an approved waste disposal facility. Improper disposal is a violation of Federal Law.

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse or pressure rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Refer to the product label for additional and complete Container Handling instructions.

<b>SECTION 14 - TRANSPORT INFORMATION</b>
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**DOT SHIPPING DESCRIPTION:**

Packaging < 119 gallons: Non-regulated  
 Packaging ≥ 119 gallons: NA 1993, Combustible liquid, N.O.S. (Naphthalene) PG III, RQ  
 (Naphthalene)

**DOT HAZARD CLASS:** Combustible liquid**ID NUMBER:** NA 1993**DOT PACKING GROUP:** PG III**IATA/IMDG:** Not Regulated

<b>SECTION 15 - REGULATORY INFORMATION</b>
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**CERCLA REPORTABLE QUANTITY:** 100 lb Naphthalene (180 gallons of product)**SARA TITLE III****311/312 HAZARD CATEGORY:** Immediate health (acute), Delayed health (chronic), fire hazard**313 TOXIC CHEMICALS:** Naphthalene**CALIFORNIA PROP 65: WARNING:** Not listed.**TSCA:** Exempted - solely for FIFRA regulated use.**RCRA CLASSIFICATION:** Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing this product or derived from the product should be classified as a hazardous waste

<b>SECTION 16 - OTHER INFORMATION</b>
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**NFPA (National Fire Protection Association) HAZARD RATINGS**

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This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. This data sheet is not a guarantee of safety. Users are responsible for insuring that they have all current information necessary to safely use the product described by this data sheet for their specific purpose.

It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.